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EOS Core System (ECS) Project Contract No. NAS5-60000

September 23, 1996

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420-WP-010-001

Production History and Processing Log Definition and Usage

White Paper

White Paper--Not intended for formal review or government approval.

August 1996

Prepared Under Contract NAS5-60000

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Abstract

This white paper provides a consistent definition for Release B data items(i.e., metadata fields), that are needed in the Processing Log insertion process, Data Server database update process, Client-Data Server search process, and Client-Data Server retrieval process for processing logs. Additionally, this white paper provides a definition for production history and processing log.

This white paper does not address as to how the Client GUI represents this information given that the scope of this white paper is to define the contents of the processing log and the necessary database entries to permit queries.

Keywords: processing log, production history, metadata, data model

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Abstract

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1. Introduction

1.1 Purpose

The purpose of this document is to provide a consistent definition of the Processing Log across the Client, Data Server, and Processing subsystems; each subsystem's interactions with the Processing Log (i.e., the ability to insert and retrieve them); and the ability to search for granules using Production History.

The terms "Production History" and "Processing Log" are not synonymous. The two terms are clarified for the purposes of this paper.

A granule's **production history** is composed of two components 1) searchable granule and collection level metadata attributes and 2) attributes stored in the Processing Log file. The "Production History" is represented as: the granule metadata lineage links to granules to produce a particular granule; the granule metadata PGE version; the collection metadata PGE name; the granule metadata production date; the collection metadata link to DAP(SSAP); the granule metadata link to processing log; and the processing log.

The **processing log** is a subset of production history that comprises of a flat file attached to each granule. Therefore, there is not a file that is referred to as "production history log", instead there is a file called "processing log".

This white paper is intended to address the ESDIS' concern on the ability to search and retrieve "production history logs" by identifying the data being captured and stored and by presenting a change to the data model which when combined with existing metadata defines "Production History". This does not fully answer SPDS Issue #49 but only a portion.

Contributors to this white paper are:

- Doranal Basappa, Release B Client Subsystem
- Chuck Gross, Multi-Release Support Data Engineering
- Kate Senehi, Release B Data Server Subsystem
- Simon Tackley, Release B Processing Subsystem
- Tess Wingo, Science Office

1.2 Organization

This paper is organized as follows:

Section 1 of this document defines the purpose and outlines the content.

Section 2 of this document defines the Level 3 requirements applicable to this document and the ECS interpretation.

Section 3 of this document defines the use cases that need to be supported by this document.

Section 4 of this document provides changes to the data model to accommodate production history queries for processing log.

Section 5 of this document illustrates the interaction between subsystems with respect to processing log and production history.

Section 6 of this document outlines the respective responsibilities of Release B's Client, Data Server, and Processing subsystems.

Section 7 of this document states issues that need to be addressed at a detailed design level.

1.3 Review and Approval

This White Paper is an informal document approved at the Office Manager level. It does not require formal Government review or approval; however, it is submitted with the intent that review and comments will be forthcoming. All comments are due to the author no later than 26 August 1996.

The ideas expressed in this White Paper are valid August 1996 to December 1996.

Questions regarding technical information contained within this Paper should be addressed to the following ECS Contact:

- ECS Contact
  - Mark S. Alabastro, Member of the Technical Staff (MTS) - Associate, 301.925.1054, malabast@eos.hitc.com

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Data Management Office
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2. Applicable Level Three Requirements

2.1 Overview

This section presents Level 3 Requirements that are found in section 7 of the *Functional and Performance Requirements Specification*, Document #423-41-02. These Level 3s apply to the insertion, search, and retrieval of production history and do not reflect applicable Level 3 requirements that involve the data model.

2.2 PGS Level 3s

2.2.1 PGS-0360

The PGS shall generate a PGS processing log that accounts for all data processing activities.

ECS Interpretation: Production will generate a processing log for every PGE execution. The contents of the processing log can be found in section 6.1 of this document.

2.2.2 PGS-1090

The PGS shall have the capability to provide the data product quality staff with the algorithms, calibration coefficient tables, input data sets, or other information related to production processing for the purposes of reviewing and analyzing the quality of production.

ECS Interpretation: Production will generate a processing log for every PGE execution. The contents of the processing log can be found in section 6.1 of this document. This log is available the data product quality staff as required in IMS-0545 and DADS2370.

2.3 DADS Level 3s

2.3.1 DADS2370

Each DADS shall send to the user, at a minimum, the following:

1. L0-L4
2. Special products (L1-L4)
3. Metadata
4. Ancillary data
5. Calibration data
6. Correlative Data
7. Documents
8. Algorithms
9. Planning and scheduling information

ECS Interpretation: Retrieval of processing logs applies to item 9 of DADS2370 which is interpreted as the Client subsystem being able to provide processing logs.

2.4 IMS Level 3s

2.4.1 IMS-0330

The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:

1. Calibration data, navigation data, and instrument engineering data
2. Processing algorithms used for data generation at the PGS
3. Software used for data generation at the PGS
4. Parameters used for data generation at the PGS
5. Input data used for data generation at the PGS
6. Data recipients
7. The PGS at which the data was processed

ECS Interpretation: Science data should be linked to production history including processing logs. Processing logs contain the information specified in items 4 and 7 above. The Client should be able to access a product's production history and associated processing log. Items 1, 2, 3 and 5 are already accessible via links to the science granule.

2.4.2 IMS-0500

The IMS shall provide access to information to include at a minimum:

1. metadata
2. spacecraft housekeeping and ancillary data information
3. engineering data
4. EOC historical data
5. data acquisition plans and schedules
6. processing schedules
7. documentation
8. ESDIS project policies and procedures obtained from SMC database
9. science processing library software
10. documentation on data format and metadata standards

ECS Interpretation: A mechanism for searching and retrieving processing logs, which relates to item 7, should be provided to the Client with the appropriate interfaces to Data Server.

2.4.3 IMS-0545

The IMS shall provide the capability to search a product's processing history

ECS Interpretation: The Client should have the appropriate functions to devise an appropriate query for production history, submit that query to the Data Server, and retrieve processing logs.

2.4.4 IMS-0930

The IMS shall provide the capability to search metadata holdings for the purpose of identifying the product desired and the input data to be processed.

ECS Interpretation: The Data Server shall have to capability to accept queries to the metadata holdings for production history to identify products that were generated by a particular PGE name and version.

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3. Applicable Production History Use Cases

The definition of uses cases in this particular instance constrains the problem space for practical design to occur. In this section, two user types are identified with three use cases. One use case involves retrieving the processing log which involves either the science user or production/quality staff. The second use case involves obtaining science granule metadata and the third use case involves obtaining a list of granules associated with a particular PGE; both involving production/quality staff.

3.1 Use Case 1: Science User

This particular use case also applies to QA Personnel.

3.1.1 Method 1: Science Granule Reference to Processing Log via UR

In this scenario a science user utilizes the ECS Client interface to view a specific processing log associated with a specific science granule. The scenario involves a science user using the ECS Client[1] to view a single granule's processing log. The UR available in the science granule metadata can be used to retrieve the processing log.

3.1.2 Method 2: User Search for Science Granules Using Production History Information

A user can search for an appropriate granule by providing the PGE name, PGE version, and/or the production date (includes time), i.e., production history.

By first providing the PGE name and later specifying PGE version and production date; the user receives a particular instance of a science granule UR.

By first providing the PGE name and later specifying PGE version, the user receives metadata for all science granules produced with a particular PGE name and version.

If the user provides a production date, the user receives URs of all the science granules generated on a particular production date.

3.2 Use Cases 2: QA Personnel Finding Processing Log

QA personnel notice an anomaly in one granule and would like to view the processing log of that granule.

In a this scenario, the user is interested in obtaining processing log.

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[1] Identification of the appropriate Client Tool is not within the scope of this white paper.

3.2.1 Method 1: Obtain Processing Log

Given a granule's metadata, the processing log is retrieved by using its UR.

3.3 Use Case 3: QA Personnel Finding Granules Associated with a Particular PGE.

QA personnel notice an anomaly in one granule and would like to view a list of granules that were generated from the anomalous granule or generated using the same PGE as the anomalous granule.

3.3.1 Method 1: Obtain List of Associated First Generation Granules

Given a granule's metadata, a list of URs referring to granules used in producing that granule is provided. Therefore, it is possible to search for granules which have a specific granule as an input.

3.4 Items to Query Production History

From the three uses cases, the following fields are applicable for indexing and queries:

1. PGE name and version
2. Production date
3. input pointer

The granule UR is retrieved.

3.5 Obtaining Relationship Information

The granules used to make a particular granule are obtained via the science granule metadata which contains the URs of the input granules. These input granules are only the immediate predecessors to a particular granule.

The way to search for all (first generation) granules produced from a source granule is to search for all granules whose input pointer contains the UR of the source granule.

4. Data Model

The following is an addition to the ECSData granule based on the current DID311 (refer to Science Data Processing Segment (SDPS) Database Design and Database Schema Specifications for the ECS Project: Document #311-CD-008-001).

This addition resolves the TBDs found in Section A.2.2 of 311-CD-008-001 for Requirement key name, ProductionDate. This specification has been duplicated in Appendix A - DID311 Specification for Production History of this document and does not succeed 311-CD-008-001.

Table 4-1. Addition to DID 311 Table B-4 Summary of Granule Level Attributes

Attribute/Class	Source	Limited	Intermediate	Full	Service Provided
ProductionDateTime/ ECSDataGranule	PGE	optional	optional	mandatory	search/retrieve

The following addition is made to DID 311 Data Dictionary.
Attribute: ProductionDateTime
Module Name: Granule_v3
Class Name: ECSDataGranule
Attribute Description: The date and time a specific granule was produced by a PGE.
Content Source: PGE
Alias:
Constraints:
Default Value: null
Datatype: datetime

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5. Processing Log Life

This section illustrates the life of a processing log, starting at the Processing subsystem and ending with Client query.

A processing log is created every time a PGE is executed. After the granules have been inserted into the Data Server and a UR is obtained for each granule inserted, Processing calls the command to insert the processing log file with an MCF file and metadata values into the Data Server.

Using a descriptor file and MCF, Data Server parses the parameter list and validates the metadata.

A link between a science granule and processing log is established.

Using the fields available (see Section 3.4, Items to Query Production History), the Client submits a query to the Data Server for a processing log's UR or a list of URs belonging to associated granules.

This entire process is illustrated in Figure 5-1: Consistent Definition of Processing Log to Production History.

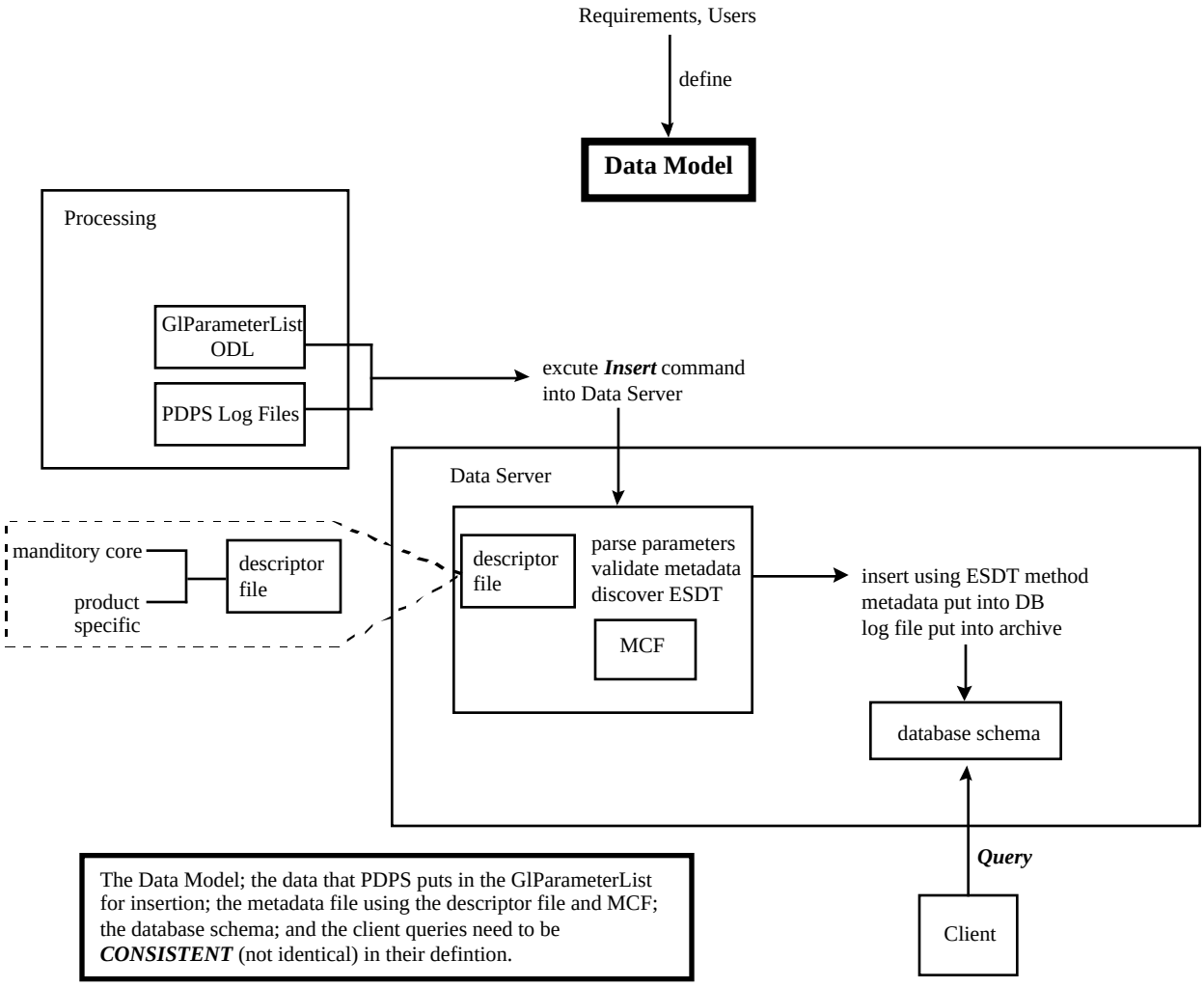

Figure 5-1. Consistent Definition of Processing Log to Production History

6. Processing, Data Server, Client Subsystems Responsibilities

This section describes the responsibilities of the Processing, Data Server, and Client subsystems in order for the system to have the capability to search and retrieve processing logs.

6.1 Processing Responsibilities

Processing prior to insert into the Data Server needs to populate the science granule metadata with production date, production time, and PGE name (which includes PGE version). Associated with the science granule metadata is the processing log which contains the following information:

1. Processing completion status (i.e., SUCCESS or FAILURE)
2. Exit code (i.e., UNIX exit code)
3. Actual run time (= start time, stop time, elapsed time)
4. Planned resources
5. Actual resources (disk set)
6. Actual resources (maximum disk space)
7. Actual resources (operating system)
8. Actual resources (total RAM)
9. Actual resources (machine)
10. Actual CPU consumption
11. Actual Memory consumption
12. Run time parameters
13. Production location (DAAC name, mode)
14. Status log file
15. User log file
16. Report log file

Processing inserts the processing log file into the Data Server with a list of related output, science granules using the production history ESDT.

6.2 Data Server Responsibilities

Data Server adds a link from the science granule ESDT to the production history ESDT, which has the processing log as a data file.

Data Server provides the functionality to search for all granules that have a specified PGE name and version.

Data Server provides the ability to search for granules produced from a given granule.

6.3 Client Responsibilities

Client to provide the capability to formulate a query for a science granule if production history metadata attributes such as PGE name are made available at the collection level and the PGE version and production date made available at the granule level.

Client to display the production history related granule level metadata attributes from the resulting granules along with other granule level metadata.

Client and Data Server to resolve the issue concerning the capability to retrieve a processing log based on a processing log's UR in the science granule's metadata.

Client and Data Server to resolve the issue of how to use the input pointer to search for all granules produced from a particular granule.

7. Detailed Design Impacts

The purpose of this white paper is to address high level issues concerning searching and retrieval of processing logs. The following items are outstanding issues that impact detailed design and implementation:

1. Issue of the client to performing a series of queries to get a science granule, based on the PGE name and PGE version, since the PGE name exists at the collection level and the PGE version exists at the granule level.
2. Issue of where the insertion of metadata occurs.
3. Issue of where the linkage between the processing log and the science granule occurs.
4. Issue of defining the link type used to get all science granules from a production history.

These issues are to be resolved (TBR) by the respective development organizations.

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Appendix A - DID311 Specification for Production History

The following material comes from Science Data Processing Segment (SDPS) Database Design and Database Schema Specifications for the ECS Project (Document Number 311-CD-008-001), Appendix A, Section A.2.2.

This material have been replicated here for completeness and is not in any manner to succeed the original section in DID 311. Section 4 of this document identifies an update to the data model which will be officially reflected in the next edition of the DID 311 document.

Any comments to the following section should be directed to the responsible engineer for Document 311-CD-008-001.

A.2.2 Production History

An external view for these attributes is presented elsewhere in this document. That view indicates that the attributes below are returned in 2 objects (this is driven by access requirements plus ease of placement and storage of attribute values during processing); a set of URs or IDs related to lineage and a log file containing all other attribute values. The latter object (the log file) is the archive object pointed to in the granules module. The URs/IDs are a combination of the AncillaryInputgranule ID and the ECSDataGranule self reference which are not explicit in the module. The specification below covers both of these objects or elements of the external view.

The attributes below make up the two objects which are Processing History. The attributes were chosen from a draft specification, presented at the Data Modelling Working Group Production History splinter session May 4-5 1995. The purpose of the splinter session was to assess the importance and relevance of the attributes within Data Lineage and Processing History.

The Release A content is presented below, consisting of an external view of files. In a later release, it is expected that with further analysis of the data architecture, additional functionality will be added, in terms of tracing heritage through the pointers held within the Inventory database (see System Design Specification - 207-CD-001-001; section 4.4.3.10, pages 4-62 through 4-64).. The logfile would also be linked to relevant documents and delivered algorithm packages explaining test results, planned resources and QA reviews and QA dictionaries.

The processing history log file consisting of attributes which describe information relevant to the actual PGE 'event' producing the granule. The processing subsystem will write these attributes to the logfile, from attributes passed on by the planning subsystem, and those calculated by the processing subsystem itself. These attributes measure such information as time, size and resources used. They are written to the log file by the processing and planning subsystem, before, during and after kick off of the PGE. This log file in a Parameter equals Value (PeV) format is inserted into the Data Server Subsystem using the Insert Service. Both granule and log file are inserted at the same time to establish the relationship between the two within the Data Server. In doing so, the two may be rebundled during ordering of a product.

The table below analyzes the requirements. Columns have the following meaning:

- Requirement key name; a brief name indicating the requirement (documented in previous edition of DID311)
- Implementation of requirement; each required item has been classified according to whether it is satisfied by the system.

  - Granule means the required item is associated with the granule in the inventory, as is therefore available for retrieval with the granule. These items are found in DID311 in the granule module.
  - Collection means the item is associated with the collection and can be retrieved at the directory level. These items are found in DID311 in the collections and delivered algorithm package modules.
  - Processing history log means the item is captured in the processing log produced by the processing subsystem. Attributes found in the DID305 design document.
  - Removed from specification means that the item is not found in the system or that it is a link and therefore not supplied as an attribute.

- DID311 or DID 305 attribute - if applicable; specifies the DID311 (this document) or DID305 (design document) attribute name. Details are found in DID305 or are found in the data dictionary in chapter 6 for attributes in DID311.
- Class name; is the class name containing the DID305 or DID311 attribute (whichever is applicable).
- Module name; is the module name containing the DID305 or DID311 class (whichever is applicable).
- Provided by / maps to; that part of the ECS system to which the module/class/attribute belongs.
- Requirement met; is the item available to the production history view.
- Comments; additional comments and outstanding issues.

Table A-1. Production History Requirements (1 of 2)

Requirement key name	Implementation of requirement	DID 311 or DID 305 ttribute name - if applicable	Class Name	Module Name	Provided By / maps to	Requirement Met	Comments
DataLineage							
GranuleId	Granule	GranulePointer	ECSDataGranule	Granule_v1	Assigned to the granule upon Insertion to the Data Server.	YES	This may be an ID provided by the PGE, which will be replaced by the UR upon insertion.
InputPointer	Granule	InputGranuleID	ECSDataGranule	Granule_v1	PGE accesses ID's/Ur's from the PCF - attaches these to the inventory.0 metadata within the file	YES	PCF will contain the UR's and/or ID's of all input files to be utilized by the PGE
AncillaryInputPointer	Granule	AncillaryInputPointer	AncillaryInputGranule	Granule_v1	PGE accesses ID's/UR's from the PCF - attaches these to the inventory.0 metadata within the file	YES	PCF will contain the UR's and/or ID's of all input files to be utilized by the PGE
EphemerisDataID	Granule	OrbitParametersPointer	OrbitParametersGranule	Granule_v1	PGE accesses file ID's/UR's containing Ephemeris Data from the PCF - attaches these to the inventory.0 metadata within the file	YES	PCF will contain the UR's and/or ID's of all ephemeris files utilized by the PGE
CalibrationDataId	Granule	CalibrationFilesPointer	CalibrationFiles	DeliveredAlgorithmPackage_v1	PGE accesses file ID's/UR's containing Calibration Data from the PCF - attaches these to the inventory.0 metadata within the file	YES	these are essentially a type of ancillary data
ProcessingLog							
PlannedCPUConsumption	Collection	PerformanceTestResults Pointer	PerformanceTestResults	DeliveredAlgorithmPackage_v1	All information found in the Delivered Algorithm Package, constructed by the PGE, DAAC during SSI&T	YES	Part of Delivered Algorithm Package, explaining the PGE profile, constructed during SSI&T
PlannedMemoryConsumption	Collection	PerformanceTestResults Pointer	PerformanceTestResults	DeliveredAlgorithmPackage_v1	All information found in the Delivered Algorithm Package, constructed by the PGE, DAAC during SSI&T	YES	
ExpectedRunTime (formerly, PlannedRunTime)	Collection	PerformanceTestResults Pointer	PerformanceTestResults	DeliverdAlgorithmPackage_v1	All informatyion found in the Delivered Algorithm Package, constructed by the PGE, DAAC during SSI&T	YES	Removed from Processing History, all information will be held in the Delivered Algorithm Package (DAP).
Reprocessing Status	Granule	ReprocessingActual, ReprocessingPlanned	ECSDataGranule	Granule_v1	Provided by PGE into granule using Metadata Tools	YES	Removed from Processing History, mandatory metadata in Granule
QA Statistics product reference	Granule	QAGranulePointer	QAGranule	Granule_v1	Provided by PGE into granule using Metadata Tools	YES	Removed from Processing History, mandatory metadata in Granule
ProductGenerationSize	Granule	SizeMBECSDataGranule	ECSDataGranule	Granule_v1	Provided by PGE into granule using Metadata Tools	YES	The size attribute will indicate the volume of data to be contained in the granule
ReprocessingPlanned, ReprocessingActual	Granule	ReprocessingPlanned, ReprocessingActual	ECSDataGranule	Granule_v1	Provided by PGE into granule using Metadata Tools	YES	Removed from Processing History, mandatory metadata in Granule
Test Data File ID's	Granule/Collection	TestPlanPointer, TestScriptPointer, TestSourceCodePointer, TestSiteConfigPointer	TestPlan, TestScript, TestSourceCode, TestSiteConfig	DeliveredAlgorithmPackage_v1	All informatyion found in the Delivered Algorithm Package, constructed by the PGE, DAAC during SSI&T	YES	Removed from Processing History, all information will be held in the Delivered Algorithm Package (DAP). At Release B the navigation to this information will be implemented.
Processing_Completion_Status	Processing History Log	myState (305)	DpPrPge		Processing Subsystem	YES	The exit status is captured when the PGE completes/aborts.
ProductionDate	Processing History Log	N/A (305)	TBD	TBD	Provided by Processing Subsystem	YES	Was Data and Time generated. Must be in UTC.
ActualRunTime	Processing History Log	TBD (305)	TBD	TBD	Processing Subsystem	YES	Made up of the following attributes: Start Time, Stop Time, Elapsed Time
PlannedResources	Processing History Log	myTarget (305)	DpPrExecutable	TBD	Planning and Processing Subsystem	YES	This defines the required machine and operating system combination to execute this process. A null value indicates the entity is capable of being run on any platform. this value will be used to determine alternate resources for execution.
ActualResources	Processing History Log	myDiskSet (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	This attribute points to the set of objects which represent the attached storage devices
ActualResources	Processing History Log	myMaxDiskSpace (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	
ActualResources	Processing History Log	myOperatingSystem (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	This attribute defines the machine type and the current version of the operating system which controls it
ActualResources	Processing History Log	myTotalRam (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	This attribute defines the total RAM configuration for the object instance.
ActualResources	Processing History Log	myClientMachine (305)	DpPrExecutionManager	ResourceManagement	Processing Subsystem	YES	This attribute identifies the local machine where this object is running
ActualCPUConsumption	Processing History Log	myCPUAllocation (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	This attribute defines the number of processors which are currently allocated to the processing of PGE's on this platform. At present for RLS A, there is only one delivery platform SGI - and one CPU is allocated for one Process

Table A-1. Production History Requirements (2 of 2)

Requirement key name	Implementation of requirement	DID 311 or DID 305 ttribute name - if applicable	Class Name	Module Name	Provided By / maps to	Requirement Met	Comments
ActualMemoryConsumption	Processing History Log	myPerProcessRam (305)	DpPrComputer	ResourceManagement	Processing Subsystem	YES	Per process RAM sets soft and hard limits on the amount of virtual memory a process can use
Elapsed_Time	Processing History Log	MyBeginningDateTime, MyEndingDateTime (305)	TBD	TBD	ProcessingSubsystem	YES	Elapsed Time can be calculated from the start time/date and stop time/date
pge_name	Processing Log	myPgeID (305)	DpPrPGE	?	Planning Subsystem	YES	This attribute may be a duplicated if the PGE developers wish to include this information within the granule as product specific metadata
Run Time Parameters	Removed from Specification	N/A	N/A	N/A	N/A	N/A	Changed To User Specified Parameters
Operator Inputs To Processing Stream	Removed from Specification	N/A	N/A	N/A	N/A	N/A	Attribute Removed at DMWG
QAParameter / Value Pairs	Removed from Specification	N/A	N/A	N/A	N/A	N/A	N/A
LinkToDAP	Removed from Specification	DeliveredAlgorithmPackage	DeliveredAlgorithmPackage	N/A	Link must be established by Data Server Subsystem	YES	Link to delivered Algorith package must be formulated during population of the inventory within the Data Server
Link to Algorithm Guide	Removed from Specification	GuideName	Guide	Document_v1	Link must be established by Data Server Subsystem	YES	Link to Algorith Guide must be formulated during population of the inventory within the Data Server
ProductLocation	Removed from Specification	N/A	N/A	N/A	N/A	NO	This can only be supplied after insert to the data server.
Script Used	Removed from specification	N/A	N/A	N/A	N/A	N/A	N/A
ExitCode	Removed from specification	N/A	N/A	N/A	N/A	NO	Pertains to the end state of 1 instance of a PGE run - used to give operator a "heads - up". Not captured in the Processing Subsystem
OperatorIntervention	Removed from Specification	N/A	N/A	N/A	N/A	NO	Processing has no means of capturing any information which an operator may add or change for the PGE within sybase. No such dialog box within the COTS.
ReasonForChange	Removed from Specification	N/A	N/A	N/A	N/A	NO	Processing has no means of capturing any information which an operator may insert to qualify changes they made to the PGE within sybase.
ReasonForOperatorInitiatedChange	Removed from Specification	N/A	N/A	N/A	N/A	NO	Processing has no means of capturing any information which an operator may insert to qualify changes they made to the PGE within sybase.
Descendant DPR's Cancelled due to this PDR	Removed from Specification	N/A	N/A	N/A	N/A	N/A	See exit Code
StatusLogFiles	Removed from Specification	N/A	N/A	N/A	N/A	YES	SMF logs created with the SDPS Toolkit - must be linked to the granule during insertion into the Data Server
UserLogFiles	Removed from Specification	N/A	N/A	N/A	N/A	YES	SMF logs created with the SDPS Toolkit - must be linked to the granule during insertion into the Data Server
ReportLogFiles	Removed from Specification	N/A	N/A	N/A	N/A	YES	SMF logs created with the SDPS Toolkit - must be linked to the granule during insertion into the Data Server

Abbreviations and Acronyms

DAAC	Distributed Active Archive Center
DADS	Data Archive and Distribution System (obsolete ECS element name)
DAP	Delivered Algorithm Package
ECS	EOSDIS Core System
EOC	EOS Operations Center
EOSDIS	Earth Observing System Data and Information System
ESDIS	Earth Science Data and Information System (GSFC)
ESDT	Earth Science Data Types
GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
IMS	Information Management System (obsolete ECS element name)
MCF	Metadata Control File
PDPS	Planning and Data Production System
PGE	Product Generation Executive
PGS	Product Generation System (obsolete ECS element name)
RAM	Random Access Memory
SDPS	Science Data Processing Segment (ECS)
SSAP	Science Software Archive Package
TBR	To Be Resolved
UR	Universal Reference